

- V. Claims 1, 5, and 44, allegedly drawn to methods of treating viral infections using compounds of formula IIb, classified in class 514, subclass 45.
- VI. Claims 1 and 44, allegedly drawn to methods of treating viral infections using compounds of formula IIc, classified in class 514, subclass 43.
- VII. Claims 6, 7, and 44, allegedly drawn to methods of treating viral infections using compounds of formula Va, classified in class 514, subclass 256.
- VIII. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Vb, classified in class 514, subclass 258.1.
- IX. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Vc, classified in class 514, subclass 183+.
- X. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIa where the double bond is between the carbon atoms comprising R<sup>2</sup> and R<sup>3</sup>, classified in class 514, subclass 256.
- XI. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIb where the double bond is between the carbon atoms comprising R<sup>2</sup> and R<sup>3</sup>, classified in class 514, subclass 258.1.
- XII. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIc where the double bond is between the carbon atoms comprising R<sup>2</sup> and R<sup>3</sup>, classified in class 514, subclass 183+.
- XIII. Claims 6, 8, and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIa where the double bond is between the carbons comprising CH<sub>2</sub>OD and H, which the examiner believes was intended to be labeled compound VIIa, classified in class 514, subclass 256.

- XIV. Claims 6, 9, and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIb where the double bond is between the carbons comprising CH<sub>2</sub>OD and H, which the examiner believes was intended to be labeled compound VIb, classified in class 514, subclass 258.1.
- XV. Claims 6 and 44, allegedly drawn to methods of treating viral infections using compounds of formula VIc where the double bond is between the carbons comprising CH<sub>2</sub>OD and H, which the examiner believes was intended to be labeled compound VIc, classified in class 514, subclass 183+.
- XVI. Claims 10, 11, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where Z<sup>1</sup> and Z<sup>2</sup> are both either O or S, classified in class 514, subclass 183+.
- XVII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where Z<sup>1</sup> and Z<sup>2</sup> are both NR<sup>6</sup>, classified in class 514, subclass 183+.
- XVIII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where Z<sup>1</sup> and Z<sup>2</sup> are both Se, classified in class 514, subclass 706.
- XIX. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where one of Z<sup>1</sup> or Z<sup>2</sup> is O or S, and the other is NR<sup>6</sup>, classified in class 514, subclass 183+.
- XX. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where one of Z<sup>1</sup> or Z<sup>2</sup> is O or S, and the other is Se, classified in class 514, subclass 706.

- XXI. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIa where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.
- XXII. Claims 10, 12, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both either O or S, classified in class 514, subclass 183+.
- XXIII. Claims 10 or 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both  $NR^6$ , classified in class 514, subclass 183+.
- XXIV. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where  $Z^1$  and  $Z^2$  are both Se, classified in class 514, subclass 706.
- XXV. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is O or S, and the other is  $NR^6$ , classified in class 514. subclass 183+.
- XXVI. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is O or S, and the other is Se, classified in class 514, subclass 706.
- XXVII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIb where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.

- XXVIII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where  $Z^1$  and  $Z^2$  are both either O or S, classified in class 514, subclass 183+.
- XXIX. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where  $Z^1$  and  $Z^2$  are both  $NR^6$ , classified in class 514, subclass 183+.
- XXX. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where  $Z^1$  and  $Z^2$  are both Se, classified in class 514, subclass 706.
- XXXI. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where one of  $Z^1$  or  $Z^2$  is O or S, and the other is  $NR^6$ , classified in class 514, subclass 183+.
- XXXII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where one of  $Z^1$  or  $Z^2$  is O or S, and the other is Se, classified in class 514, subclass 706.
- XXXIII. Claims 10 and 44, allegedly drawn to methods of treating viral infections using compounds of formula Xlc where one of  $Z^1$  or  $Z^2$  is  $NR^6$  and the other is Se, classified in class 514, subclass 706.
- XXXIV. Claims 13, 14, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIIIa, classified in class 514, subclass 49.
- XXXV. Claims 13 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIIIb, classified in class 514, subclass 49.

- XXXVI. Claims 13, 15, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIIIc, classified in class 514, subclass 49.
- XXXVII. Claims 13, 16, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIIId, classified in class 514, subclass 49.
- XXXVIII. Claims 17, 18, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIV where  $Z^3$  is O, classified in class 514, subclass 49.
- XXXIX. Claims 17, 18, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XIV where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 256.
- XL. Claims 19, 20, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVa where both  $Z^3$ 's are O, classified in class 514, subclass 44.
- XLI. Claims 19 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVa where one  $Z^3$  is O and the other is  $CH_2$ , classified in class 514, subclass 49.
- XLII. Claims 19 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVa where both  $Z^3$ 's are  $CH_2$ , classified in class 514, subclass 256.
- XLIII. Claims 19, 21, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVb where both  $Z^3$ 's are O, classified in class 514, subclass 44.

- XLIV. Claims 19 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVb where one  $Z^3$  is O and the other is  $CH_2$ , classified in class 514, subclass 45.
- XLV. Claims 19 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVb where both  $Z^3$ 's are  $CH_2$ , classified in class 514, subclass 263.1.
- XLVI. Claims 22, 23, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIa, classified in class 514, subclass 23. The Examiner notes that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ ,  $W^4$ , and  $W^5$ .
- XLVII. Claims 22 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIb, classified in class 514, subclass 23. The Examiner notes that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ ,  $W^4$ , and  $W^5$ .
- XLVIII. Claims 22, 24, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIc, classified in class 514, subclass 23. The Examiner notes that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ , and  $W^4$ .
- XLIX. Claims 22, 25, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVI d, classified in class 514, subclass 23. The Examiner notes that this group may be subject to further restriction based on the identity of  $Z^4$ ,  $Z^5$ ,  $W^3$ , and  $W^4$ .

- L. Claims 22, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIe, classified in class 514, subclass 23.
- LI. Claims 22, 26, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVI f, classified in class 514, subclass 23.
- LII. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIa where  $Z^3$  is O, classified in class 514, subclass 49.
- LIII. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIa where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 256.
- LIV. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIb where  $Z^3$  is O, classified in class 514, subclass 45.
- LV. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIb where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 263.1.
- LVI. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIc where  $Z^3$  is O, classified in class 514, subclass 49.
- LVII. Claims 27 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIc where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 256.
- LVIII. Claims 27, 28, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVII d where  $Z^3$  is O, classified in class 514, subclass 45.

- LIX. Claims 27, 28, and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIId where  $Z^3$  is  $CH_2$ , classified in class 514, subclass 263.1.
- LX. Claims 29 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIIa, classified in class 514, subclass 49.
- LXI. Claims 29 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIIb, classified in class 514, subclass 45.
- LXII. Claims 29 and 22, allegedly drawn to methods of treating viral infections using compounds of formula XVIIIc, classified in class 514, subclass 49.
- LXIII. Claims 29 and 44, allegedly drawn to methods of treating viral infections using compounds of formula XVIIId, classified in class 514, subclass 45.
- LXIV. Claims 30 and 45, allegedly drawn to methods of treating viral infections using compounds of formula XIX, classified in class 514, subclass 49.
- LXV. Claims 31 and 46, allegedly drawn to methods of treating viral infections using compounds as set forth in claims 31 and 46, classified in class 514, subclass 43.
- LXVI. Claims 32, 33, 34, 47, 48, and 49, allegedly drawn to methods of treating viral infections using compounds of formula XX or XXI, classified in class 514, subclass 49.
- LXVII. Claims 35, 36, 50, and 51, allegedly drawn to methods of treating viral infections using compounds of formula XXII or as set forth in claims 36 or 51, classified in class 514, subclass 49.



- LXVIII. Claims 37, 38, 52, and 53, allegedly drawn to methods of treating viral infections using compounds of formula XXIII or as set forth in claims 38 or 53, classified in class 514, subclass 256.
- LXIX. Claims 39, 40, 41, 54, 55, and 56, allegedly drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 49.
- LXX. Claims 42 and 57, allegedly drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 45.
- LXXI. Claims 43 and 58, allegedly drawn to methods of treating viral infections using compounds as set forth in the claims, classified in class 514, subclass 49.

Applicants elect, with traverse, the subject matter of Group I.

The Examiner alleges that Groups I-LXXI are distinct from each other because Groups I - LXXI involve the use of compounds that are recognized in the art as being distinct due to their diverse chemical structure, their different chemical properties, modes of action, etc. Office Action at 11. The Examiner further alleges that, without restriction, there would be undue burden upon him.

According to MPEP § 803, two requirements must be met before a proper Restriction Requirement may be made. These two requirements are: "The inventions must be independent . . . or distinct as claimed; and there must be a serious burden on the Examiner if restriction is required . . . ." (Emphasis added). The MPEP defines "independent" to mean that no disclosed relationship exists between the multiple subjects claimed. In other words, the claimed inventions lack any commonality in "design, operation, or effect." MPEP § 802.01. While Section 121 gives the USPTO

authority to restrict between claims of an application reciting one or more independent and distinct inventions, it does not, however, provide authority to reject a claim on that basis, in effect requiring an applicant to break up the claim and present it in several applications. *In re Weber*, 580 F.2d 455, 458-9 (Fed. Cir. 1978). The *Weber* court held that an Examiner cannot require an applicant to divide up the embodiments of a single Markush claim. *Id.* at 458. Contrary to *Weber*, the Examiner subdivides many of Applicants' claims and breaks them up into multiple groups while ignoring the commonality and considerable overlap found within those claims.

Further, the Examiner fails to establish the second requirement set forth in MPEP § 803, that a serious burden on the Examiner exists if restriction is not required among Applicants' claims.

Accordingly, Applicants assert the following as supported by the arguments that follow:

At the very least,

- 1) Groups I-VI should be combined as Group I;
- 2) Groups VII-XV should be combined as Group II;
- 3) Groups XVI-XXXIII should be combined as Group III;
- 4) Groups XXXIV-XXXVII should be combined as Group IV;
- 5) Groups XXXVIII-XXXIX should be combined as Group V;
- 6) Groups XL-XLV should be combined as Group VI;
- 7) Groups XLVI-LI should be combined as Group VII;
- 8) Groups LII-LIX should be combined as Group VIII;
- 9) Groups LX-LXIII should be combined as Group IX;

10) Groups LXIV-LXVII, LXIX, and LXXI should be rejoined with claim 1 in Group I,

11) Group LXVII should be rejoined with claim 6 in Group II, and

12) Group LXX should be rejoined with claim 1 in Group I.

1) The Examiner separates Applicants' claim 1 into groups I-VI. Applicants respectfully point out to the Examiner that there is considerable overlap between the Formulas I-a, I-b, I-c, II-a, II-b, and II-c, and that these formulas, all of which share a common core, represent a single Markush claim. Formulas I-a, I-b, and I-c differ only in that they contain different bases. Formula I and Formula II differ only by the absence or presence of a double bond. Applicants should not be penalized for clarifying the genus of claim 1 by providing both formulas with and without double bonds and specific bases. The alternative, so often found in the art, would be to have a more generic formula that contains, for example, the substituent "B" to represent any base, and a dotted line to optionally represent a double bond. Further, the search of these compounds, with or without a double bond, should not place an undue burden on the Examiner as supported by the Examiner acknowledging that regardless of the double bond, the compounds of claim 1 are all found in the same subclass. For example, the Examiner states that the subject matter of Group I and Group IV are both of the same subclass 49, the subject matter of Group II and Group V are of the same subclass 45, etc. Office Action at 2. Nor should the search of these nucleosides containing a narrow group of bases provide cause for the Examiner to separate Applicants' claim 1, a single Markush claim, into 6 separate groups. Applicants respectfully request the rejoinder of Groups I-VI.

2) The Examiner separates Applicants' claim 6 into groups VII-XV.

Applicants respectfully point out to the Examiner that there is considerable overlap between the formulas V-a - V-c, VI-a - VI-c, and VII-a - VII-c, all of which share a common core and belong to a single Markush group. Again, Applicants should not be penalized for disclosing particular formulas of the genus rather than drawing just one structure with a cyclopentanyl ring optionally containing double bonds as is often found throughout the art. Further, the search of these compounds, with or without a double bond, should not place an undue burden on the Examiner nor should the search of nucleosides containing a narrow group of bases. Applicants respectfully request the rejoinder of groups VII - XV.

3) The Examiner separates Applicants' claim 10 into groups XVI-XXXIII.

Applicants' respectfully point out that the compounds of formulas XI-a, XI-b, and XI-c share a common core and differ by a narrow group of bases. The considerable overlap of these formulas does not render appropriate splitting this claim into 17 different groups. As stated above, the Examiner is not permitted to divide up the embodiments of a single, proper Markush claim. Applicants respectfully request the rejoinder of claim 10.

4) The Examiner separates Applicants' claim 13 into Groups XXXIV-XXXVII.

Formulas XIII-a, XIII-b, XIII-c, and XIII-d differ from each other by the presence or absence of a bond that tethers the base to the sugar moiety. As recited in the Office Action at page 6, all of these formulas can be searched in the same class 514, subclass 49. Thus, the Examiner has not provided any evidence that such a search would be burdensome. Applicants respectfully request the rejoinder of claim 13.

5) The Examiner separates Applicants' claim 17 into Groups XXXVIII - XXXIX. Group XXXVIII contains a CH<sub>2</sub> in the sugar moiety whereas Group XXXIX contains an O at that position. Again, the Examiner divides a single Markush group contrary to the holdings of the *Weber* court. Applicants have a statutory right to claim an invention as they see fit. *In re Weber*, 580 F.2d at 458. Although recognizing that the Office has a legitimate need to efficiently administer its caseload by limiting the examination to one invention per filing fee, the court stated that this need must give way to an applicant's statutory right to claim an invention as he chooses. *Id.* at 458-459. Here, Applicants choose to claim in a single Markush group compounds in which one atom can be either carbon or oxygen. Applicants respectfully request the rejoinder of claim 17.

6) The Examiner separates claim 19 into Groups XL-XLV. Like Groups XXXVIII-XXXIX, a CH<sub>2</sub> group can be replaced with an oxygen atom in the same Markush group. Moreover, different bases of a nucleoside should be allowed in the same application. Applicants are claiming a genus, not a species. Applicants respectfully request the rejoinder of claim 19.

7) The Examiner separates claim 22 into Groups XLVI - LI. Again, all of the formulas within claim 22 share a common core and differ by nucleoside base or the presence of a bond connecting the base to the sugar moiety. For the reasons provided above, Applicants respectfully request the rejoinder of claim 22.

8) The Examiner separates claim 27 into Groups LII - LIX. The formulas of claim 27 represent a single Markush while sharing a common core. The formulas differ

by nucleoside base or the position of the X<sup>4</sup> and X<sup>5</sup> substituents. For the reasons provided above, Applicants respectfully request the rejoinder of claim 27.

9) The Examiner separates claim 29 into Groups LX - LXIII. The formulas of claim 29 differ by the presence or absence of a double bond and encompass a narrow class of bases. For the reasons provided above, Applicants respectfully request the rejoinder of claim 29.

10) The Examiner separates claims 30-36 and 45-53 into Groups LXIV - LXVII, claims 39-41 and 54-56 into Group LXIX, and claims 43 and 58 into Group LXXI. The Examiner provides no basis for concluding that it would be a serious burden to search the formulas or species of these claims along with the formulas of claim 1. Each of the formulas is a subgenus or species of formula I-a in claim 1, including the enantiomers of a subgenus of I-a as claimed in claims 35 and 36. As such, Applicants respectfully request the rejoinder of claims 30 and 45 (Group LXIV), 31 and 46 (Group LXV), 32-34 and 47-49 (Group LXVI), 35-36 and 50-51 (Group LXVII), claims 39-41 and 54-56 (Group LXIX), and claims 43 and 58 (Group LXXI) with claim 1.

11) The Examiner separates claims 37-38 and 52-53 into Group LXVIII. The Examiner provides no basis for concluding that it would be a serious burden to search the formulas of these claims along with the formulas of claim 6. Each of the formulas is a subgenus of formula V-a in claim 6. As such, Applicants respectfully request the rejoinder of claims 37-38 and 52-53 with claim 6.

12) The Examiner separates claims 42 and 57 into Group LXX. The Examiner provides no basis for concluding that it would be a serious burden to search the species of these claims along with formula I-b of claim 1. Each of the species in claims 42 and

57 are encompassed by formula I-b of claim 1. Applicants respectfully request the rejoinder of claims 42 and 57 with claim 1.

For at least these reasons, and in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Office, it is respectfully requested that the Restriction Requirement be reconsidered and revised as proposed.

Applicants request that the Examiner contact their representative, Bill Strauss, at 202-408-4185 should the need arise.


By virtue of the Petition for Five-Month Extension of Time and fee filed concurrently herewith, this response is timely filed. Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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By:

  
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